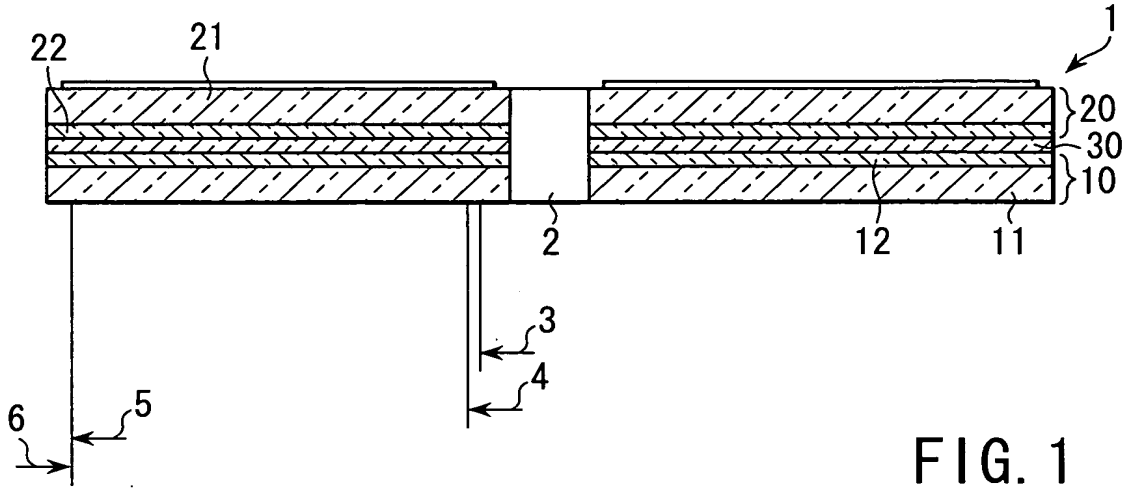


FIG. 1

FIG. 2A

FIG. 2B

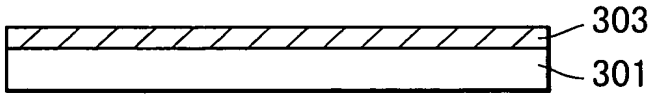


FIG. 2C

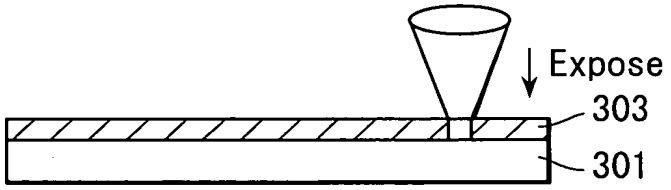


FIG. 2D

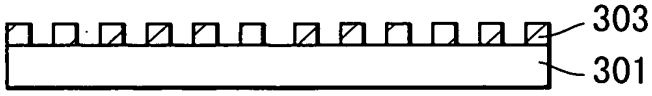
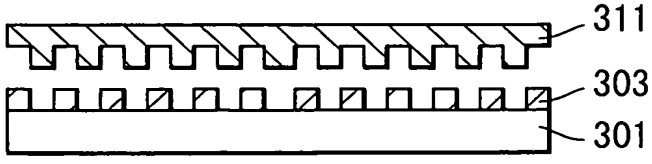


FIG. 2E



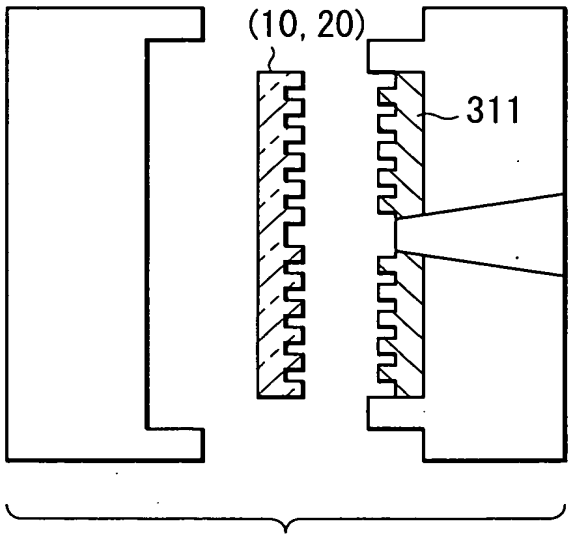


FIG. 2F

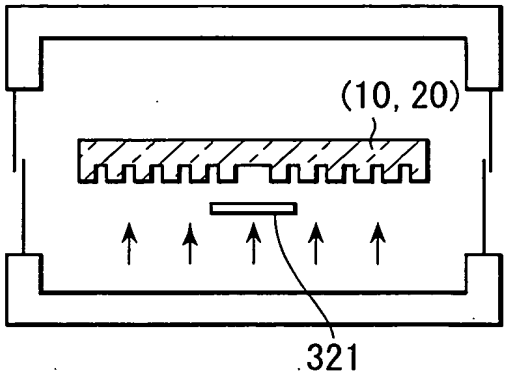


FIG. 2G

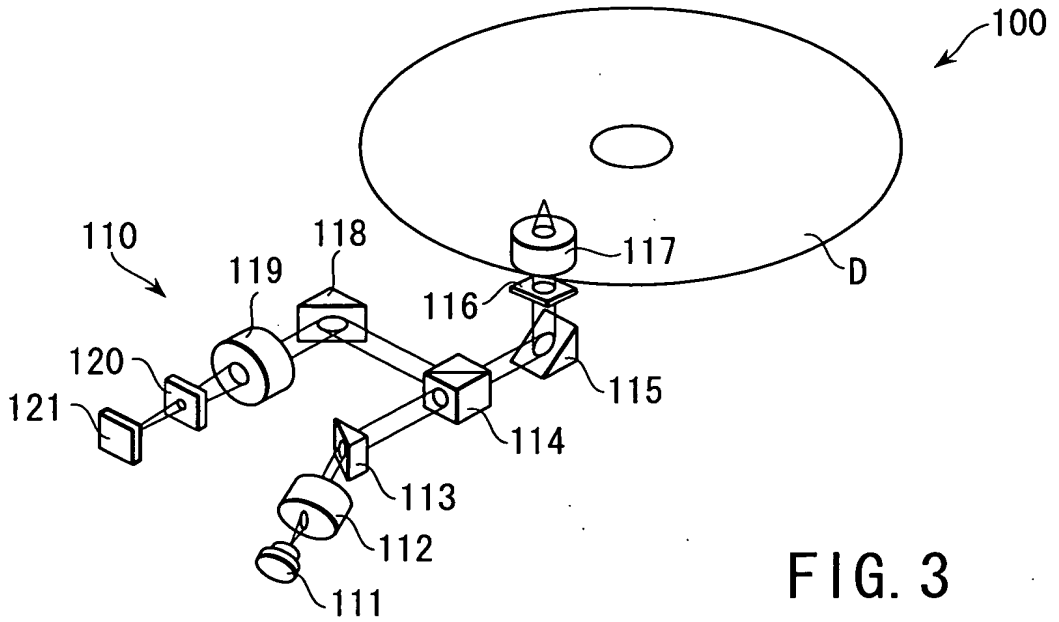


FIG. 3

FIG. 2H

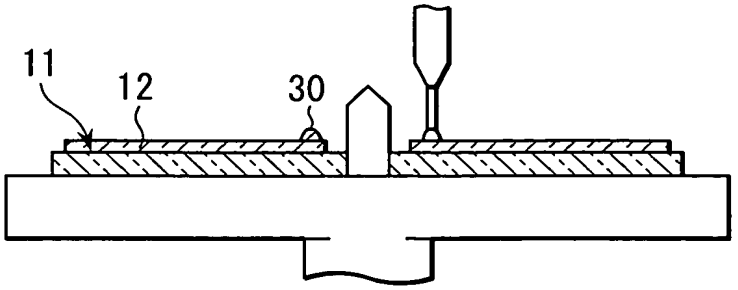


FIG. 2I

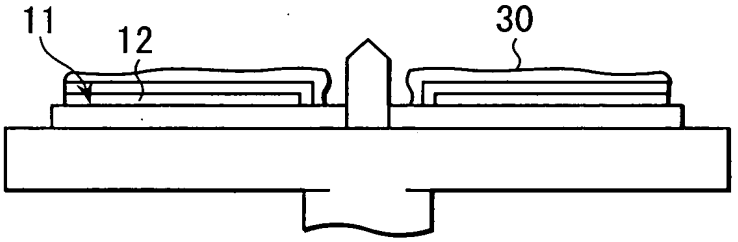


FIG. 2J

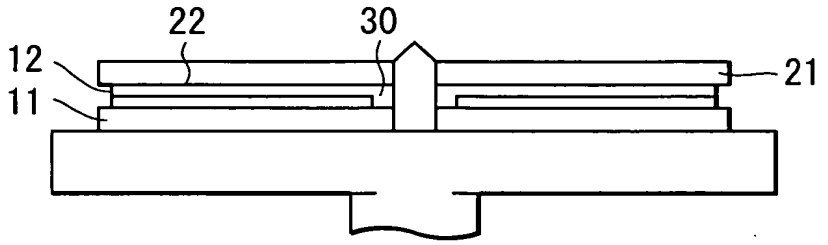
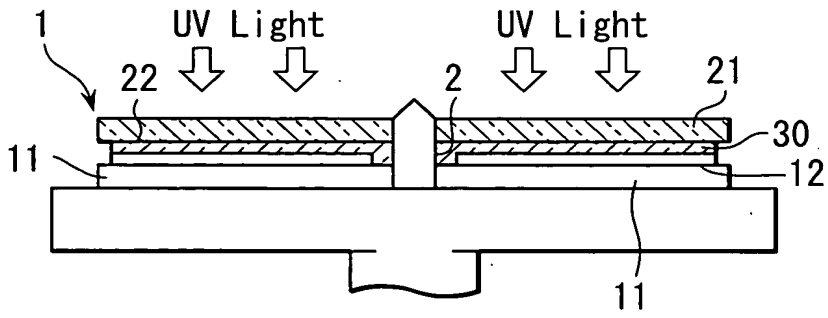


FIG. 2K



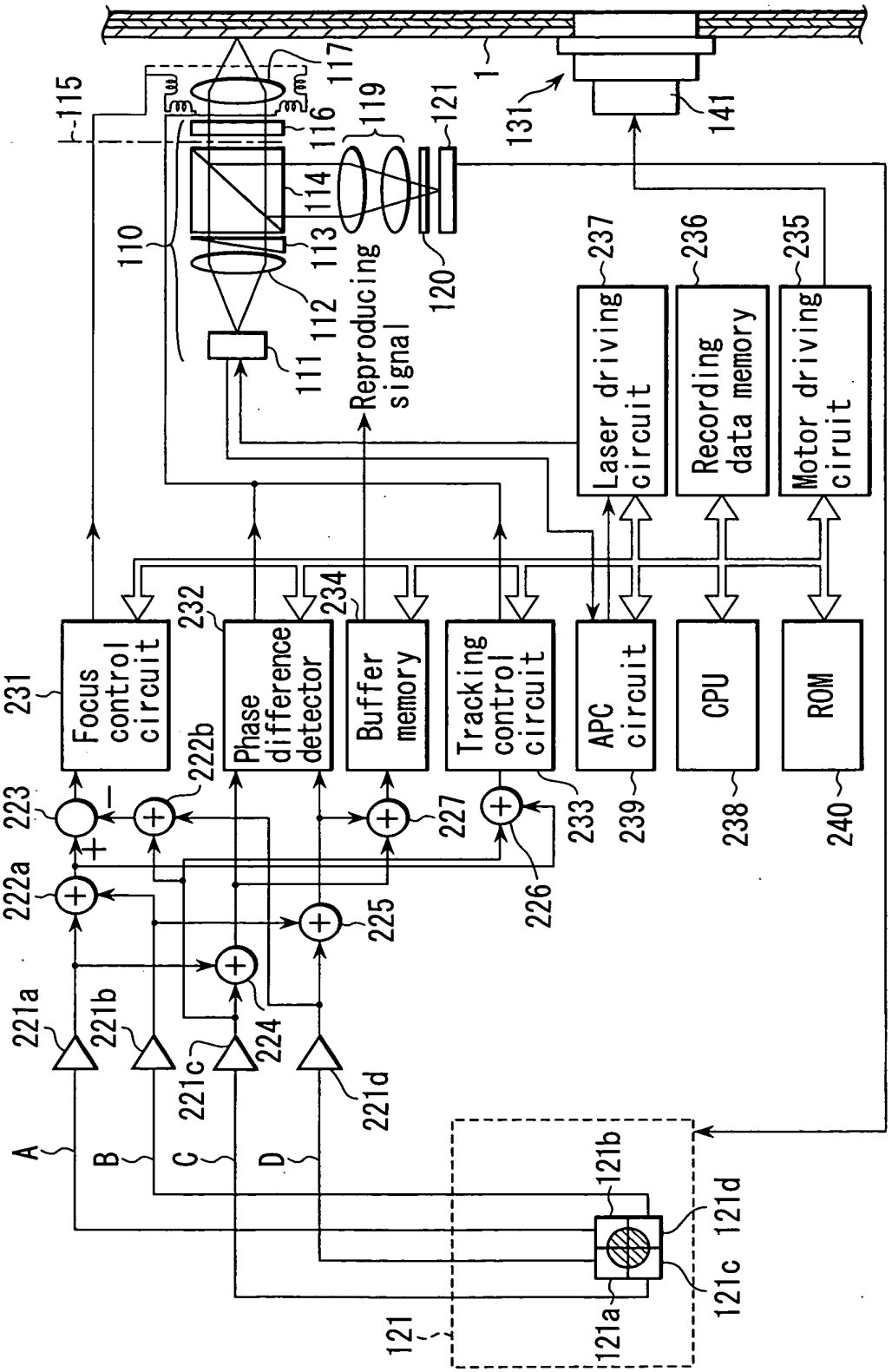

1
115
117
116
119
121
131
141
110
114
113
112
120
111
Reproducing signal
237
236
235
Laser driving circuit
Recording data memory
Motor driving ciruit
231
Focus control circuit
232
Phase difference detector
234
Buffer memory
Tracking control circuit
APC circuit
CPU
ROM
223
222b
227
233
239
238
240
222a
225
226
221a
221b
224
221c
221d
A
B
C
D
121b
121d
121c
121a
121

FIG. 4

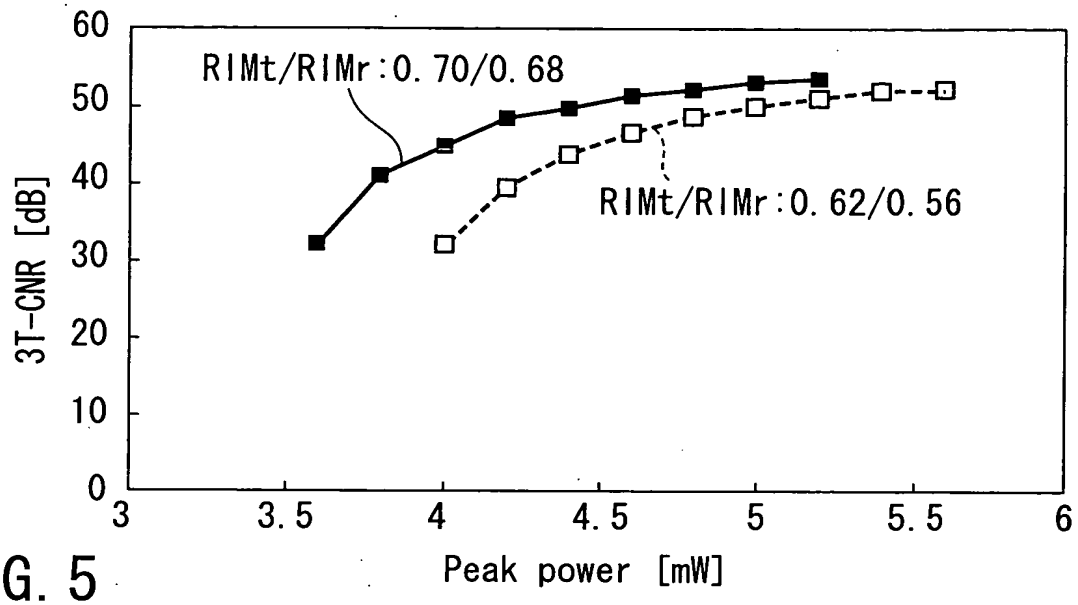


FIG. 5

Explanatory view of recording data density in each area of rewritable information recording medium

Parameter		Single layer
・User data capacity		20 Gbytes/side
・Wavelength of laser diode ・Numerical aperture of objective lens		405 nm 0.65
・Data bit length	System lead-in area	0.306 μm
	Data lead-in area Data area Data lead-out area	0.130 to 0.140 μm
・Channel bit length	System lead-in area	0.204 μm
	Data lead-in area Data area Data lead-out area	0.087 to 0.093 μm
・Minimum mark length (2T)	System lead-in area	0.408 μm
	Data lead-in area Data area Data lead-out area	0.173 to 0.187 μm
・Maximum mark length (13T)	System lead-in area	2.652 μm
	Data lead-in area Data area Data lead-out area	1.126 to 1.213 μm

FIG. 6A

・Track pitch	System lead-in area	0.68 μm
	Data lead-in area Data area Data lead-out area	0.34 μm
・Physical address	Data lead-in area Data area Data lead-out area	*WAP *WAP= Wobble Address in Periodic position
・Disk diameter ・Disk thickness ・Central hole diameter ・Inner diameter of data area ・Data area diameter		120 mm 1.20 mm 15.0 mm 24.1 mm 57.89 mm
・User data/sector ・Error correction code ・ECC constraint sector ・Modulation		2048 bytes Read solomon product code RS (208, 192, 17) × RS (182, 172, 11) 32 sector ETM, RLL (1, 10)
・Correctable burst error length	System lead-in area	7.1 mm
・Reference scanning speed	Data lead-in area Data area Data lead-out area	6.0 mm
	System lead-in area	6.61 m/s
	Data lead-in area Data area Data lead-out area	5.64 to 6.03 m/s
・Channel bit rate with reference speed	System lead-in area	32.40 Mbps
	Data lead-in area Data area Data lead-out area	64.80 Mbps
・User bit rate with reference speed	System lead-in area	18.28 Mbps
	Data lead-in area Data area Data lead-out area	36.55 Mbps

FIG. 6B

Explanatory view of data structure of lead-in area in rewritable information recording medium

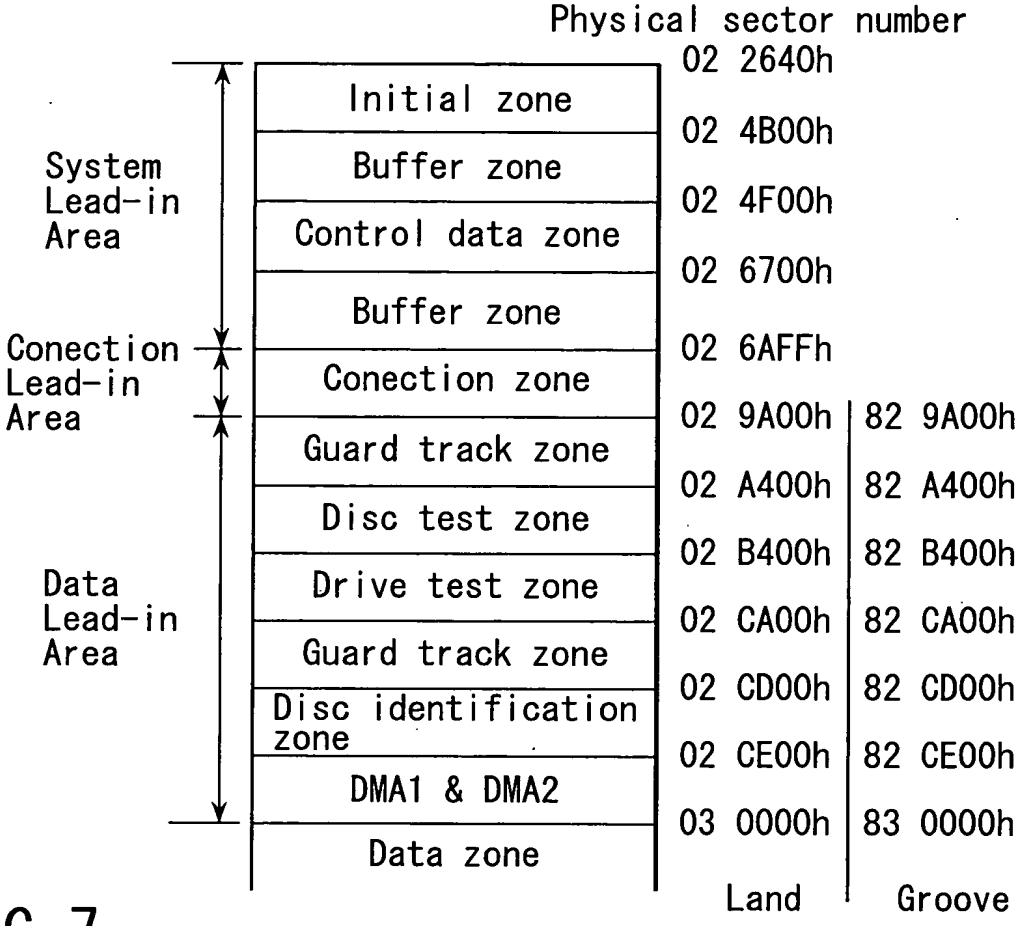


FIG. 7

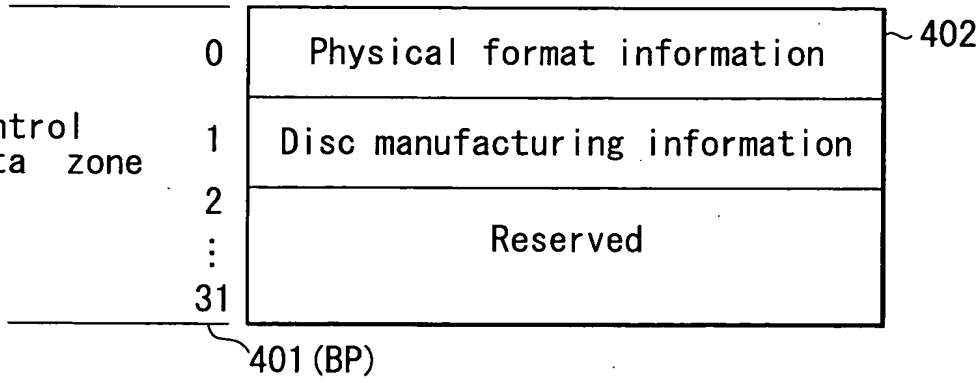
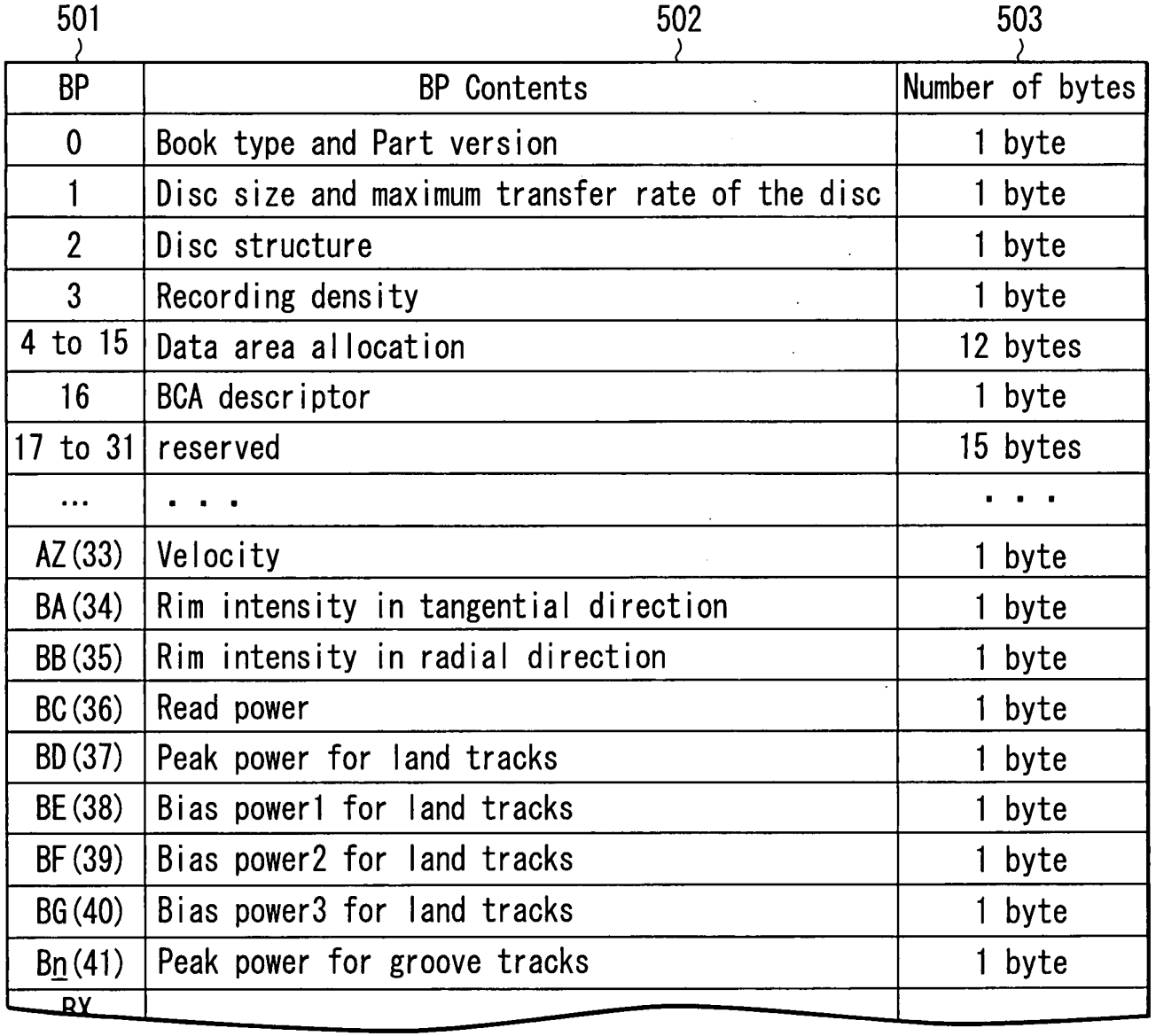


FIG. 8



501 BP	502 BP Contents	503 Number of bytes
0	Book type and Part version	1 byte
1	Disc size and maximum transfer rate of the disc	1 byte
2	Disc structure	1 byte
3	Recording density	1 byte
4 to 15	Data area allocation	12 bytes
16	BCA descriptor	1 byte
17 to 31	reserved	15 bytes
...	. . .	. . .
AZ(33)	Velocity	1 byte
BA(34)	Rim intensity in tangential direction	1 byte
BB(35)	Rim intensity in radial direction	1 byte
BC(36)	Read power	1 byte
BD(37)	Peak power for land tracks	1 byte
BE(38)	Bias power1 for land tracks	1 byte
BF(39)	Bias power2 for land tracks	1 byte
BG(40)	Bias power3 for land tracks	1 byte
Bn(41)	Peak power for groove tracks	1 byte
BY		

FIG. 9A

BX (42)	Bias power1 for groove tracks	1 byte
BY (43)	Bias power2 for groove tracks	1 byte
BZ (44)	Bias power3 for groove tracks	1 byte
CA (45)	First pulse end time for land tracks	1 byte
CB (46)	Multi pulse duration for land tracks	1 byte
CC (47)	Last pulse start time for land tracks	1 byte
CD (48)	Bias power2 duration for land tracks, Mark 2T	1 byte
CE (49)	Bias power2 duration for land tracks, Mark 3T	1 byte
CF (50)	Bias power2 duration for land tracks, Mark $\geq$4T	1 byte
CG (51)	First pulse start time for land tracks, Mark 2T, Leading Space 2T	1 byte
CH (52)	First pulse start time for land tracks, Mark 3T, Leading Space 2T	1 byte
CI (53)	First pulse start time for land tracks, Mark $\geq$4T, Leading Space 2T	1 byte
CJ (54)	First pulse start time for land tracks, Mark 2T, Leading Space 3T	1 byte
CK (55)	First pulse start time for land tracks, Mark 3T, Leading Space 3T	1 byte
CL (56)	First pulse start time for land tracks, Mark $\geq$4T, Leading Space 3T	1 byte
CM (57)	First pulse start time for land tracks, Mark 2T, Leading Space $\geq$4T	1 byte
CN (58)	First pulse start time for land tracks, Mark 3T, Leading Space $\geq$4T	1 byte
CO (59)	First pulse start time for land tracks, Mark $\geq$4T, Leading Space $\geq$4T	1 byte
CP (60)	Last pulse end time for land tracks, Mark 2T, Trailing Space 2T	1 byte

FIG. 9B

CQ(61)	Last pulse end time for land tracks, Mark 3T, Trailing Space 2T	1 byte
CR(62)	Last pulse end time for land tracks, Mark ≥4T, Trailing Space 2T	1 byte
Cu(63)	Last pulse end time for land tracks, Mark 2T, Trailing Space 3T	1 byte
Cv(64)	Last pulse end time for land tracks, Mark 3T, Trailing Space 3T	1 byte
Cw(65)	Last pulse end time for land tracks, Mark ≥4T, Trailing Space 3T	1 byte
CX(66)	Last pulse end time for land tracks, Mark 2T, Trailing Space ≥4T	1 byte
CY(67)	Last pulse end time for land tracks, Mark 3T, Trailing Space ≥4T	1 byte
CZ(68)	Last pulse end time for land tracks, Mark ≥4T, Trailing Space ≥4T	1 byte
DA(69)	First pulse end time for groove tracks	1 byte
DB(70)	Multi pulse duration for groove tracks	1 byte
DC(71)	Last pulse start time for groove tracks	1 byte
DD(72)	Bias power2 duration for groove tracks, Mark 2T	1 byte
DE(73)	Bias power2 duration for groove tracks, Mark 3T	1 byte
DF(74)	Bias power2 duration for groove tracks, Mark ≥4T	1 byte
DG(75)	First pulse start time for groove tracks, Mark 2T, Leading Space 2T	1 byte
DH(76)	First pulse start time for groove tracks, Mark 3T, Leading Space 2T	1 byte
DI(77)	First pulse start time for groove tracks, Mark ≥4T, Leading Space 2T	1 byte
DJ(78)	First pulse start time for groove tracks, Mark 2T, Leading Space 3T	1 byte
DK		

FIG. 9C

DK(79)	First pulse start time for groove tracks, Mark 3T, Leading Space 3T	1 byte
DL(80)	First pulse start time for groove tracks, Mark≥4T, Leading Space 3T	1 byte
DM(81)	First pulse start time for groove tracks, Mark 2T, Leading Space≥4T	1 byte
DN(82)	First pulse start time for groove tracks, Mark 3T, Leading Space≥4T	1 byte
DO(83)	First pulse start time for groove tracks, Mark≥4T, Leading Space≥4T	1 byte
DP(84)	Last pulse end time for groove tracks, Mark 2T, Trailing Space 2T	1 byte
DQ(85)	Last pulse end time for groove tracks, Mark 3T, Trailing Space 2T	1 byte
DR(86)	Last pulse end time for groove tracks, Mark≥4T, Trailing Space 2T	1 byte
Du(87)	Last pulse end time for groove tracks, Mark 2T, Trailing Space 3T	1 byte
Dv(88)	Last pulse end time for groove tracks, Mark 3T, Trailing Space 3T	1 byte
Dw(89)	Last pulse end time for groove tracks, Mark≥4T, Trailing Space 3T	1 byte
DX(90)	Last pulse end time for groove tracks, Mark 2T, Trailing Space≥4T	1 byte
DY(91)	Last pulse end time for groove tracks, Mark 3T, Trailing Space≥4T	1 byte
DZ(92)	Last pulse end time for groove tracks, Mark≥4T, Trailing Space≥4T	1 byte
EA(93) to FZ(140)	Disc manufacturer's name	m(48) bytes
GA(141) to Gn(156)	Disc manufacturer's supplementary information	n(16) bytes
Over Gn+1 (155 to 2047)	reserved	k(1892) bytes

FIG. 9D

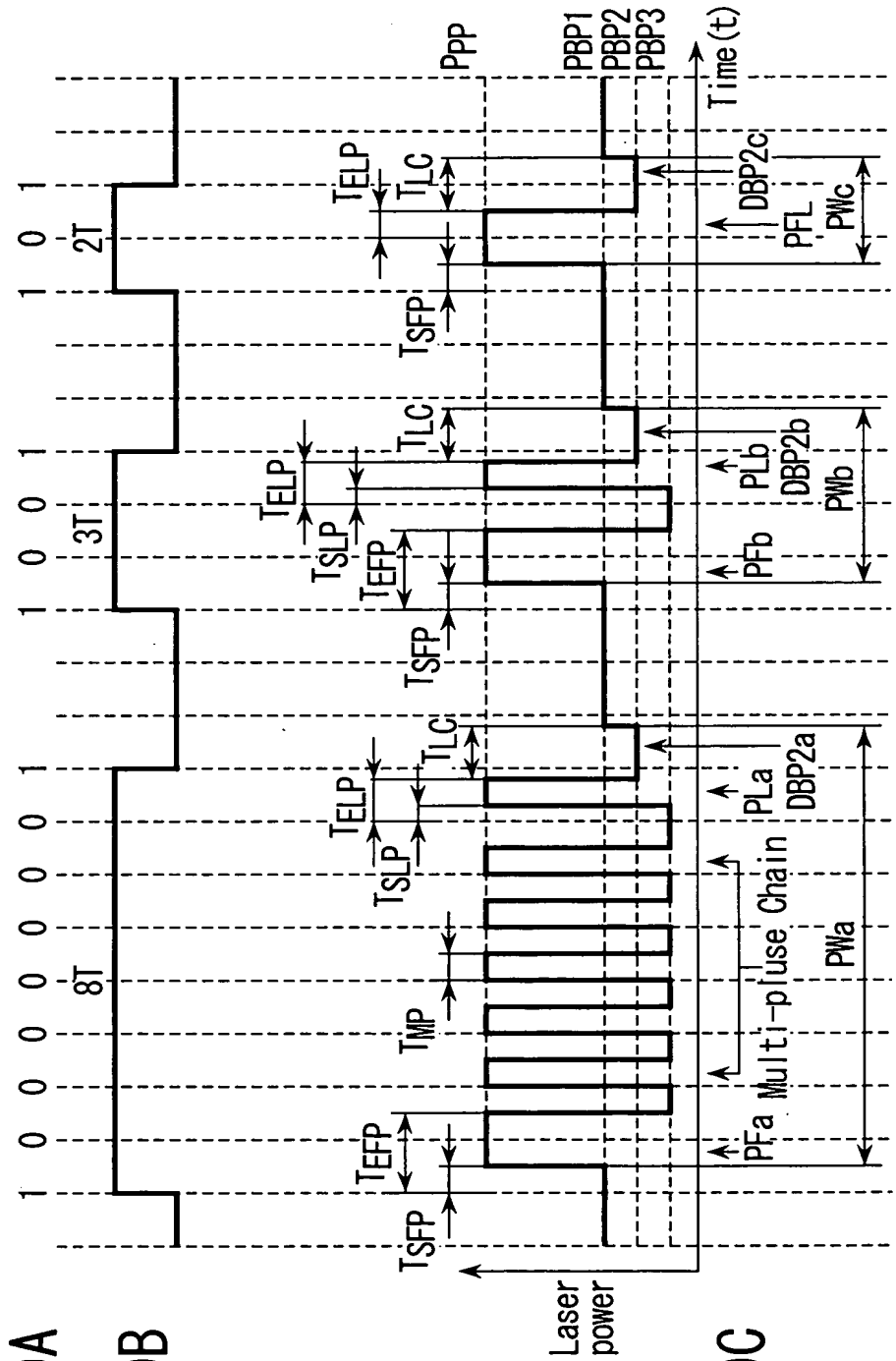


FIG. 10A

FIG. 10B

FIG. 10C

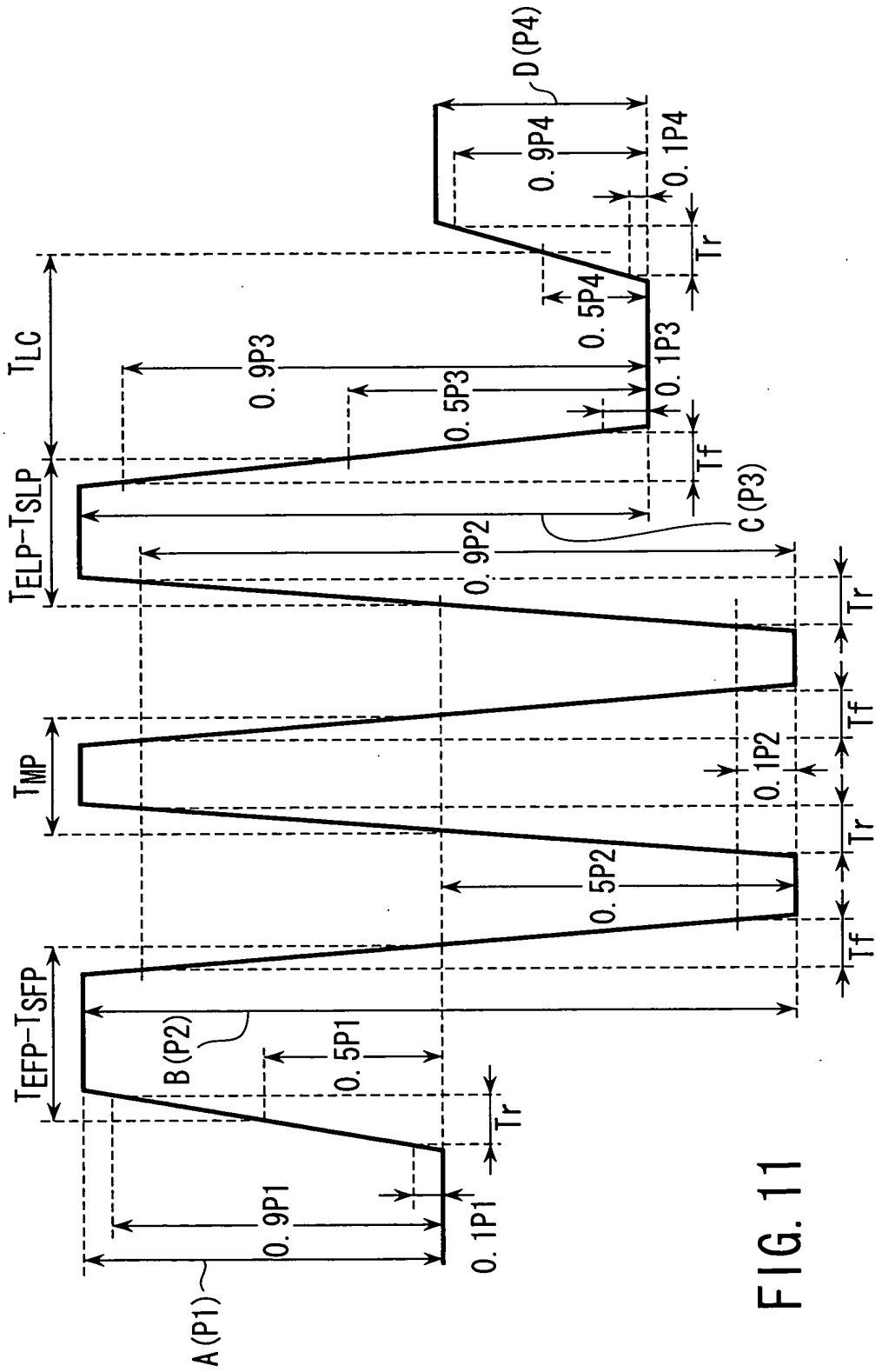

D (P4)
0. 9P4
0. 1P4
Tr
0. 5P4
0. 1P3
0. 9P3
0. 5P3
TLC
Tf
C (P3)
TELP-TSLP
0. 9P2
Tr
Tf
0. 1P2
TMP
Tr
0. 5P2
Tf
TEFP-TSFP
B (P2)
0. 5P1
Tr
0. 9P1
0. 1P1
A (P1)

FIG. 11